1.9
P64P

LIBRARY
RECEIVED
NOV 5 1938
U. S. Department of Agriculture

THE PLANT DISEASE REPORTER

Issued By

Division of Mycology and Disease Survey

Volume XXII Number 20

November 1, 1938

BUREAU OF PLANT INDUSTRY

UNITED STATES DEPARTMENT OF AGRICULTURE

THE PLANT DISEASE REPORTER

Issued by

THE PLANT DISEASE SURVEY

DIVISION OF MYCOLOGY AND DISEASE SURVEY

Vol. XXII Number 20

November 1, 1938

IN THIS ISSUE

E. M. Hildebrand and D. H. Palmiter report that the X-disease, for which they propose the name "yellow-red virosis" constitutes a serious menace to peach growing in New York, and suggest that it may be much more widely distributed than is realized, page 394. It is now definitely known in Connecticut, Massachusetts, New York, and Vermont.

The keeping quality of the 1938 cranberry crop in Massachusetts is very poor, according to H. F. Bergman, page 397.

Diseases of Persian walnut and of filbert in the Pacific Northwest in 1938, including a new but apparently unimportant disease of filbert in Oregon, are reported by P. W. Miller, page 398.

Charlotte Elliott reports, page 401, that bacterial wilt of sweet corn was not nearly so important in northeastern States as the amount of early season infection indicated it would be, a condition apparently correlated with the observed marked decrease in numbers of corn flea beetles as the season advanced.

Sorghum in northwest Texas has been seriously affected by lodging this season, according to A. A. Dunlap, page 402.

D. S. Welch reports that phytophthora crown canker of flowering dogwood is widely distributed and very destructive on Long Island, page 403.

C. O. Bratley and James S. Wiant send a report on diseases of fruits and vegetables observed on the New York market during May to September, page 404.

Brief notes on plant diseases, page 408, include a note on black pox on apple fruit in Indiana, by R. C. Baines; "weak neck" of sorghum in Kansas, by A. F. Swanson; and a report of the Dutch elm disease from a new county in New York.

YELLOW-RED VIROSIS (X-DISEASE) OF PEACH AND CHOKECHERRY

E. M. Hildebrand and D. H. Palmiter

The new virus disease of the peach and chokecherry known as the "X-disease" in Connecticut[1] and recently reported from New York[2] and Massachusetts[3], has apparently become well established in several counties in the Hudson River Valley during the past growing season. This new trouble now constitutes a serious menace to the peach-growing industry in that area as well as in other parts of the State.

Diseased peach orchards have definitely been observed in three counties - Columbia, Greene, and Dutchess - and are apparently present also in two others - Rensselaer and Albany. The case in Albany County is still somewhat in doubt. In every case of a diseased peach orchard, diseased chokecherries were always found in the adjacent fence rows.

In addition to being present in these counties, diseased chokecherries have also been observed in over 20 other counties (Fig. 1) including those in the central and western sections where the bulk of New York peaches are grown. (In this connection it should be mentioned that only a partial survey has been made of the State). Because diseased chokecherries are constantly associated with diseased peaches and because of the much more widespread distribution of the trouble on the chokecherry than on the peach, it is probable that the chokecherry is the source from which peach trees are infected in the first place. The further fact that the wild chokecherry (Prunus virginiana) is so generally distributed throughout the States east of the Mississippi River will make it extremely easy for the disease to breach the gaps between peach growing districts on the wild host, a phenomenon which is now taking place in New York.

The present rather widespread distribution of this disease in New York cannot be ascribed to but one season's development. It undoubtedly has been in the Hudson Valley for several years and possibly for as long as four years[4]. Its presence in central and western sections of the State

---

1/ Stoddard, E. M. The "X-disease" of peach. Conn. Agr. Expt. Station Circ. 122: 54-60. 1938.

2/ Hildebrand, E. M. and D. H. Palmiter. X-virus disease on peaches in New York. Pl. Dis. Reptr. 22: 268. 1938.

3/ Boyd, O. C. X-disease of peach found in Massachusetts. Pl. Dis. Reptr. 22: 334. 1938.

4/ Dr. W. C. Muenscher of the Department of Botany at Cornell University mentioned to the writers that he was attracted by the abnormal foliage color of chokecherry in the summer of 1935 while visiting Columbia and Dutchess Counties. Stoddard (see footnote 1) also mentions seeing an isolated case in New York.

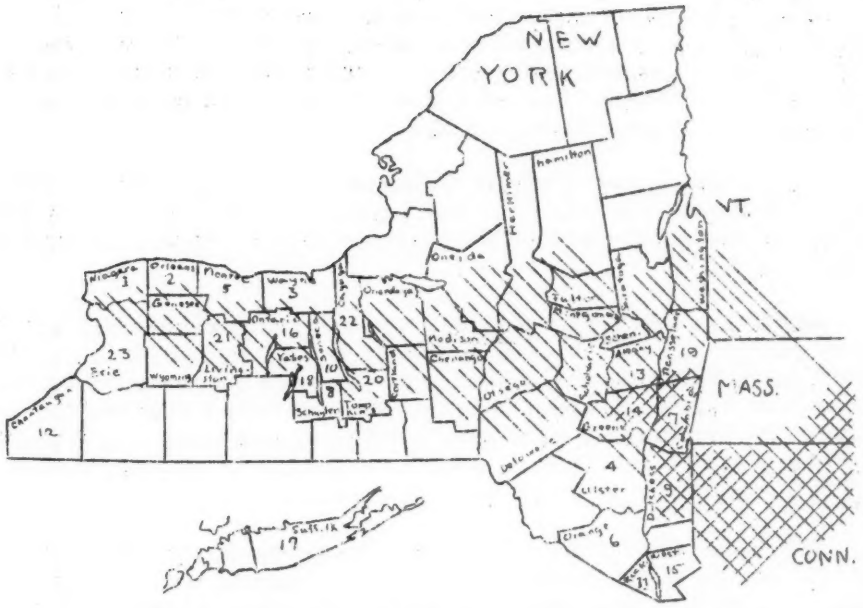

Figure 1. A map of New York showing a rough approximation of the known occurrence (1938) of the Yellow-red Virosis (X-disease) on peach (lines slanting to the right) and on the chokecherry (lines slanting to the left). The numbers in the several counties represent their rank as peach counties based on the total number of peach trees in 1930.

is much more recent but still may be of one or two years' duration in certain localities. One reason for believing that it is in the process of invading these areas is the fact that the disease has not yet been found in the immediate vicinity of peach orchards, although the distances in a few instances are less than one mile. Another reason is that the symptoms on the chokecherry are of early stages of the disease, chiefly consisting of the brilliant red coloration of the foliage.

The rapidity with which this disease becomes established and the extent of the damage produced in a short period of time can best be shown by what has happened in two typical orchards.

Orchard A (Greene County) was planted in the spring of 1936. The grower was first attracted by this new trouble in July 1938. When mapped two months later 65 percent of the trees showed typical symptoms and of these approximately one-half were severely diseased.

Orchard B (Columbia County) was planted about 1931. The trees were injured in the bad freeze of 1933-34, but recovered rather well and are now in excellent vigor. Disease symptoms were first observed in June 1938. A careful check in August disclosed over 41 percent of the trees diseased of which about 8 percent were severely affected. The fact that over 40 percent of the trees are already diseased makes this an unusually difficult problem for the grower to cope with.

The present limits of this disease are probably more widespread than is realized. For instance an abundance of diseased chokecherries have been observed in Vermont5/ along the highway between Rutland and the New York line.

Specimens of Prunus demissa, the western chokecherry, collected in Utah in mid-August and sent to us by Dr. B. L. Richards had symptoms considered typical for this disease. Dr. Richards comments, "This material is from four different areas which I have had under observation the past season. They correspond so nearly to your description that I am sending them along - characteristic rosetting, stunting of leaves, brilliant color and defoliation from older to younger leaves."

Specimens from a lone diseased peach tree in Colorado sent in by Ferris M. Green, Chief Deputy State Horticulturist, also appear to have typical disease symptoms for the peach. Mr. Green states in his letter, "The history of the tree as expressed by the grower is that it has been trying to die for several years. No other trees in this rather large orchard show any similar symptoms. The symptoms are not typical of nor do they resemble peach mosaic in any particular. The crown and root system show no abnormal symptoms. The abnormal symptoms in the top consist of a browning of the tissues of the foliage which become 'shot-holed' and drop. Also the fruit fails to mature and drops off."

The above two instances of what appear to be this disease in the Mountain States are mentioned not because they are considered as positive identification but rather to stimulate investigators in other states to be on the lookout.

The name "Yellow-red virosis" is suggested as possibly more descriptive and satisfactory for this disease than "X-disease".

(New York (Cornell) and New York State (Geneva) Agricultural Experiment Stations).

5/ This observation was made by Prof. H. H. Whetzel in August 1938 while on a trip through Vermont and the New England States to the east and north.

THE KEEPING QUALITY OF CRANBERRIES IN MASSACHUSETTS IN 1938

H. F. Bergman

The keeping qualities of cranberries of the Early Black variety in Massachusetts will be very poor this year according to the results obtained from two incubator tests concluded September 7 and 16. The amount of spoilage in samples from the same bogs was much greater in the second test than in the first, which indicates that spoilage will increase in storage after the berries have been harvested. The amount of spoilage in incubator tests in 1938 on samples from fourteen widely separated bogs was almost the same as that in 1931 on samples from the same bogs. The 1931 crop was of very poor keeping quality. Although May and June temperatures were not as high as in some other years in which crops of good keeping quality were produced, the very wet weather of July and August in combination with high temperatures at that time was very favorable for the development of rot-producing fungi. There were 16 rainy days in July and 12 in August. The wet weather continued during the picking season for Early Black.

The keeping quality of late cranberries (Howes variety) will be as poor as that of the Early Black variety, as indicated by the results of two incubator tests completed September 16 and October 3 respectively. These results are based upon tests of samples from some thirty bogs distributed throughout the cranberry growing area. Although the tests indicate a generally poor keeping quality there is much variation from bog to bog, the berries from some being of very good keeping quality.

As the crop this year is very small (275,000 to 300,000 barrels as compared with 565,000 in 1937) the poor keeping quality of the berries will be less serious than it would have been with a large crop. The crop is being marketed early and the berries are being accepted without the complaints and rejections usual in a weak market. The effect of the poor keeping quality will be felt only by growers having bogs with berries with considerable rot from which the screening loss therefore will be unusually high.

(Division of Fruit and Vegetable Crops and Diseases, Bureau of Plant Industry, and Massachusetts Agricultural Experiment Station, cooperating).

NUT DISEASES IN THE PACIFIC NORTHWEST IN 1938

Paul W. Miller

Persian Walnut Diseases

Walnut blight (caused by Phytomonas juglandis (Pierce) Bergey et al.).-- The season of 1938 was one of relatively light blight infection in the Pacific Northwest, the percentage of infected nuts in unsprayed orchards varying, according to the locality, from 3 to 35 percent. In Oregon, the heaviest losses occurred in the Roseburg and Silverton districts, where it is estimated that from 15 to 25 percent of the crop was destroyed by walnut blight. For the Pacific Northwest as a whole, however, it is estimated that about 8 percent of the potential 1938 walnut crop was destroyed by this disease.

Walnut blotch (caused by Marssonia juglandis (Lib.) Sacc.).-- This disease was found on the leaves and stems of current growth of seedling Persian walnuts growing in a small planting near Ferndale, Washington. It was of little, or no, economic importance, however, as it was limited in its distribution to the above location.

Downy spot (caused by Microstroma juglandis (Bereng.) Sacc.).-- This disease occurred in very limited amounts on leaves of Persian walnuts in a number of orchards in Oregon. It was of no economic importance as it caused but very little decrease in the functional leaf area and did not cause any premature shedding of the foliage.

Leaf scorch (non-parasitic).-- Leaf scorch was very severe and widely distributed in the Pacific Northwest in 1938 causing appreciable decrease in the functional leaf area and premature defoliation in many instances.

"Freckle-spot" (non-parasitic).-- This leaf spot which is characterized by the presence of small, circular opaque, chocolate-brown spots from 1/16 to 1/8 of an inch in diameter in the lamina of the leaf, was quite prevalent and widely distributed in the Pacific Northwest in 1938. It was of only minor economic importance, however, as it did not cause any appreciable reduction in functional leaf area or any premature defoliation.

Walnut shrivel (non-parasitic).-- This disorder, which is characterized by the presence of partially to completely shriveled kernels in the nuts, was present in varying amounts, ranging from 5 to 35 percent, in practically all orchards throughout the Pacific Northwest. In general, however, it was not present in as great amounts as in 1937.

Sunscald (non-parasitic).-- The abnormally high temperatures which prevailed in the Pacific Northwest during the summer of 1938 when the nuts

were in a critical stage of development caused appreciable damage to the crop. It is estimated that about 3 percent of the crop was lost from the injurious effects of the heat. Furthermore, the quality of a fairly large percentage of the crop which was injured but not killed was adversely affected, the heat causing amber or dark-skinned meats and partially shriveled kernels.

Walnut "girdle" (non-parasitic).-- This disorder, which is characterized by a girdling of the bark at the union of the black walnut rootstock and the Persian top, caused the death of a number of grafted walnut trees in Oregon during 1938. The trees affected were Persian walnuts of the Franquette variety grafted on California black walnut rootstocks.

Filbert Diseases

Bacterial blight (caused by Phytomonas sp.).-- This disease was much more prevalent and severe in the Pacific Northwest than it was in 1937. It occurred in both young and old filbert orchards. In young plantings up to three years of age it caused an estimated loss of from 5 to 35 percent of the trees. Although the disease killed less than one percent of trees over five years of age, it did destroy many pistillate flower buds, nut-bearing shoots and branches in the tops of older, bearing trees, thereby indirectly reducing the crop. It is estimated that filbert blight caused an indirect loss of between 10 and 25 percent of the current (1938) crop of nuts in the Pacific Northwest.

Mildew (caused by Phyllactinia corylea (Pers.) Karst.).-- Filbert mildew was very abundant in Oregon during the latter part of 1938 on the under-surface of leaves of the cultivated filbert. The disease was of only minor economic importance, though, as the infected leaves retained their natural green color and persisted on the trees up to the time of normal leaf fall. It is thought that the lateness of the attack may be responsible for the small amount of injury which seemingly occurred.

Leaf scald (non-parasitic).-- This disorder which is characterized by a browning and death of the leaf tissues, particularly at the margins, was quite severe and widely distributed in the Pacific Northwest in 1938. The Brixnut variety was more severely affected than any other commercial variety grown in Oregon and Washington, although practically all varieties grown in the Pacific Northwest were affected to a greater or less extent. Leaf scald was of considerable economic importance as it caused an appreciable decrease in the functional leaf area and a premature shedding of the leaves in many instances.

Brown-stain (non-parasitic).-- This disorder which is characterized by the appearance of a brownish liquid at localized areas in the shell and an arresting of kernel development in most cases, was present in greater

amounts than usual in the Pacific Northwest in 1938. Crop losses from this trouble varied from less than 1 percent up to 25 percent, the average loss being about 8 percent. It was more abundant in Washington than in Oregon. One of the interesting features about the current outbreak was that it was confined almost exclusively to the Barcelona variety, the DuChilly and Daviana varieties being free or practically so.

"Blanks" (non-parasitic).-- This disorder, which results in the failure of the embryo to develop, was present in greater or less amounts in practically all filbert orchards in the Pacific Northwest in 1938. While blanks occurred in all varieties grown in Oregon and Washington, they were most abundant in the Barcelona and Brixnut varieties. In certain plantings of these varieties as much as 25 percent of the crop was affected. For the Pacific Northwest as a whole, it is estimated that about 12 percent of the potential 1938 filbert crop in the Pacific Northwest were blanks. This is approximately twice as many blanks as normally occurs.

Sunscald (non-parasitic).-- Sunscald, due to the occurrence of abnormally high temperatures during the months of May, June, and July, caused the death of many young filbert trees from one to three years of age. This was particularly true in young orchards where no attempt was made to shade the tender bark by trunk protectors. The "heat" cankers which developed in the bark of the trunk at or near the ground line caused a girdling and death of the trees in many cases.

Drought injury (non-parasitic).-- The prolonged drought that occurred during the 1938 season caused the devitalization and death of a large number of young trees one to two years of age, especially in late spring (1938) plantings and in young orchards growing on soils with high wilting point coefficients where the available moisture was used up relatively early in the season.

Diplodia coryli on Filbert in Oregon

Diplodia coryli Fuckel was recently found on dead stems of filbert, Corylus avellana (var. Barcelona), in a nursery near Dundee, Oregon. While the exact relationship of this fungus to the death of the twigs could not be definitely determined from a post-mortem examination it is suspected that the organism is not aggressively parasitic but is only a weak, facultative parasite which gained access to the tissues after the twigs had been injured or weakened from other causes. As far as can be ascertained by a perusal of available literature this is the first time that this fungus has been reported on Corylus avellana in the United States.

(Division of Fruit and Vegetable Crops and Diseases).

BACTERIAL WILT OF SWEET CORN IN 1938

Charlotte Elliott

W. J. Clark, reporting on bacterial wilt [Aplanobacter stewarti] on sweet corn in Rockland County, New York (August 1, Plant Disease Reporter 22: 337, 1938), stated that the disease began with a vengeance but for some reason did not continue. This has apparently been the situation in other northeastern States during the past season. During the two past seasons wilt at the Arlington Experiment Farm, Arlington, Virginia, has increased as the season advanced, but in 1938 while increasing infection developed in the first three plantings (April 29, May 14, June 1) the amount of infection decreased in the last three plantings (June 15, July 1 and 15). In Golden Cross Bantam percentages of infected plants in the early leaf stage were 6, 2, 35, 20, 15, 7 and in the tassel stage in the six plantings 94, 100, 100, 99, 76, 46. From the susceptible Gill Bros. Golden Bantam 66 marketable ears were harvested from three 130 foot rows in the last three plantings in 1938 as compared with none in 1937 and 128 in 1936. Corn flea beetles (Chaetocnema pulicaria) were apparently more abundant early in 1938 at the Arlington Farm than at any time during the past three or four seasons, but by the latter part of July there was a noticeable decrease in numbers, and by the middle of August very few were observed on corn. Crop conditions for these three years, aside from wilt, were similar and favorable for sweet corn development.

A similar situation with regard to wilt and numbers of beetles apparently developed in other northeastern States. In southern Pennsylvania wilt was more abundant in early than in late plantings, and C. pulicaria, while abundant the middle of July, by the middle of August showed a marked decrease in numbers and by the last of August very few could be collected.

On Long Island, New York, wilt was more abundant in the first planting (May 15) than in the two previous years but wilt in later plantings of susceptible varieties was not so abundant as in 1937. Flea beetles were fairly abundant the middle of July but by the middle of August they were difficult to find. At Yonkers, New York, the wilt in early plantings was about the same as in 1937 but there was a noticeable decrease in numbers of C. pulicaria in August.

At Geneva, New York, as in 1937, no wilt was found in early plantings up to the middle of July, but a month later a few typical wilt lesions had developed--about a third as much infection as was observed in 1937. While a few C. pulicaria were collected in 1937 none was found this year although their feeding injuries were seen on the corn leaves.

The large numbers of C. pulicaria early in the season and abundant wilt infections on early plantings indicated a season of heavy wilt infection;

but the disease was sufficiently checked about the middle of the season so that more marketable ears were harvested from susceptible varieties at the Arlington Farm than in 1937, but considerably less than in 1936 when early infection was light.

(Division of Cereal Crops and Diseases).

LODGING OF SORGHUM IN TEXAS

A. A. Dunlap

Fields of sorghum in the Panhandle and other sorghum-growing regions of northwest Texas have been affected by lodging to a damaging extent this season. The lodging was first observed near Lubbock late in August. During September and early October it was found throughout the general area mentioned. Affected spots in the field are circular in shape with nearly all of the stalks broken over a few inches above the ground. Other symptoms include drying out of the entire plant, premature ripening, underdeveloped kernels, and disintegration of the pith in the lower stalk allowing the stem to collapse readily. Pithy-stemmed varieties, such as Milo and Feterita, were somewhat more seriously affected than juicy-stemmed types, although Sumac sorgo, and Kafir were also badly damaged. Nearly all varieties at the Chillicothe and Lubbock substations were affected.

Previously, lodging of sorghum has been noted in Texas but the crop has probably never been affected so extensively as during the past season. The weather conditions also have been unusual during 1938. Generally speaking, there was abundant rainfall during the early part of the growing season in the sorghum belt; later, a dry period lasted from about the middle of July until October.

Examination of the lodged plants showed high percentages of infection with Sclerotium bataticola. In these cases, the interior of the lower stalk contained only the loose vascular strands on which the characteristic sclerotia of the fungus were abundant. (Mackie[1/] has reported a similar lodging of maize in California to be due to S. bataticola). In sections of the fields where no lodging had yet occurred, certain stalks of sorghum occasionally were found invaded by this fungus. In a few instances, the sclerotia of S. bataticola were seen in the short stubs of decayed roots of plants that were still standing, near the edge of an affected area in the field. Isolations from lodged plants have consistently shown the

---

1/ Mackie, W. W. A hitherto unreported disease of maize and beans. Phytopath. 22: 637-644. 1932.

presence of S. bataticola and less frequently another unidentified fungus has appeared in culture. Lodging of this sort may represent a case of a fungus (or fungi), ordinarily of little economic importance, becoming an important factor in crop loss under certain weather and soil conditions.

(October 21, Texas Agricultural Experiment Station).

PHYTOPHTHORA CROWN CANKER OF DOGWOOD [1]

D. S. Welch

During a tour of Long Island in July, 1938, observations were made on a widely distributed and very destructive disease of flowering dogwood (Cornus florida L.). The symptoms resembled those attributed by Creager[2] to Phytophthora cactorum (Leb. & Cohn) Schroet.

The disease appeared most often on older trees and particularly on those which had been transplanted. A study of the disease on estates where the plantings had been long established indicated that the trouble had been present in some cases for many years. It was not difficult to find trees in all stages of decline ranging from slight yellowing and curling of leaves to rotting stumps. In one estate visited, a glance at the formal planting scheme led to the conclusion that other dogwoods, originally part of the plan, had long since been eliminated, leaving no trace of their former presence except a break in the symmetry of the landscape design.

In spite of the fact that the disease is probably not new, its importance appears to be increasing. At the World's Fair grounds in Flushing, Long Island, a large planting was found where several dozen recently established trees were in a dead or dying condition due to this disease. Since these trees were carefully selected for an important landscape plan it may be assumed that if they were at all diseased when dug, the symptoms were very slight. Most of the progress of the infection must have taken place subsequent to the planting, that is, within a year.

The increasing use of the flowering dogwood for parkway and home planting makes this disease of timely interest and importance.

(New York State College of Agriculture).

1/ A more complete discussion with illustrations will appear in the December number of the "Arborists' News".

2/ Creager, D. B. Phytophthora crown rot of dogwood. Jour. Arnold Arboretum. 18: 344-348. 1937.

DISEASES OF FRUITS AND VEGETABLES ON THE NEW YORK MARKET DURING THE MONTHS FROM MAY TO SEPTEMBER, 1938, INCLUSIVE [1]

C. O. Bratley and James S. Wiant

APPLES:

During September two lots of Grimes Golden and one lot of Rome apples from New Jersey exhibited an unusual spotting. The spots were scattered, small (1/16 to 1/8 inch), circular, dark brown to black and often circled by a ring of green skin on light-green or yellow areas. The underlying tissue was dry and spongy and usually penetrated the apple a distance equal to the diameter of the spot. All cultures made from the dead tissue remained sterile. Affected fruits were held at room temperature for two weeks without further development of the spots. Through correspondence with State inspectors it was learned that the spotting was severe in a number of orchards in southern New Jersey.

Bitter pit (physiological) was again found in quantity on California Gravenstein apples. In some shipments as much as 18 percent of the fruit was affected and an estimated average of affected fruit in all cars received would be between 6 and 8 percent.

APRICOTS:

Brown rot (Sclerotinia fructicola) in apricots from California was the most destructive it has been for several years. As much as 20 percent of the fruit in many car lots was affected and an approximate average for all cars received during the season may be placed conservatively at 6 percent.

CANTALOUP:

For the first time on this market phytophthora rot (Phytophthora sp.) has been noted on cantaloups. From 20 to 40 percent of the melons in scattered crates were affected in a carlot from Colorado. One percent of the melons in two other cars originating in California and Utah respectively were likewise found affected with this decay.

CHERRIES:

Except for from 3 to 5 percent brown rot (S. fructicola) in a few small early season express shipments from California, there was little decay in cherries arriving at New York City from the west.

---

[1] Report for January to April, Reporter 22: 190-193. June 15.

About 20 cars of cherries from one section of California arrived showing very small pits at the lenticels. Although much of the pitting was so small as to go unnoticed, yet in most of the shipments high percentages of the fruits were affected. This injury was traced back and was found to be due to sulfur dioxide treatment at shipping point for control of decay.

GRAPEFRUIT:

Several of the early season shipments of Florida grapefruit received during September showed high percentages of skin breakdown, apparently caused by long treatment in the degreening rooms. In each case these lots contained stem end rot (Diplodia natalensis). This decay affected more than 10 percent of the fruits in three shipments noted.

HONEY DEW MELON:

For the past seven years, during which time particular attention has been given to the market decays of Honey Dew melons and other muskmelons, anthracnose (Colletotrichum lagenarium) has never been found on western melons. During the present season, however, the disease was found in abundance on Colorado Honey Dews. Inspections made on approximately 200 cars by the Bureau of Agricultural Economics during the period of September 8 to October 8 revealed that the disease was present in 27 carlots, with from 2 to 35 percent (averaging 10 percent) of the melons affected in many crates per car.

Phytophthora rot (Phytophthora sp.) was unusually serious on Colorado Honey Dews during the current season. Of the 200 carlots referred to above, nearly one-fourth were affected, with from 1 to 28 (averaging 5) percent of the melons in many crates affected with the decay.

California Honey Dew melons arriving during late August and September showed an unusually large amount of surface blemishes. These were in the form of irregular spotting of a wide variety of types, with the skin brown in color and slightly sunken. Occasionally the spots had a glassy, water-soaked appearance. This type of blemishing is usually found at about this season of the year and appears to be the result of a breakdown of the rind. The term "skin breakdown" is suggested as a general term for designating the trouble.

IRISH POTATO:

Increased use of bags for shipping Florida and South Carolina potatoes brought more complaints of floor layer injury this year. During the month of May many such samples were brought to us for identification. In practically all cases the trouble was transit bruising without any evidence of chemical injury.

From 4 to 30 (averaging 15 percent) of the tubers in a carlot of Virginia (Eastern Shore) potatoes received in early June were found affected with late blight (Phytophthora infestans).

LEMONS:

On examination of a small lot of Florida lemons that had many characteristics of the Meyer variety, 9 percent of the fruits were found affected with a pitting characteristic of peteca (physiological) which is occasionally found in California lemons. In the smaller pits the skin appeared normal but the rind tissue beneath was collapsed. Four percent of the fruits in the same shipment were affected with a collapse of the rind around the nipple. This breakdown was identical in appearance with stylar end rot (physiological) of Persian limes.

LETTUCE:

Brown blight has seldom been seen on the market during recent years. It was of special interest, therefore, that a few heads showing typical symptoms of the disease were found in three different carlots of lettuce from the Salinas district of California, two in early September, and one in the latter part of the month.

LIMA BEAN:

Pod blight (Diaporthe phaseolorum), a disease seldom noted on this market, was found during early September in small amount in beans presumably originating in New Jersey.

LIMES:

Stylar end rot (physiological) was of less importance during the summer than it was the previous summer. Even so it was the most important trouble found on Persian limes from Florida. In a number of small shipments 5 to 10 percent of the fruit was affected. In advanced stages this breakdown was found invaded by rot producing organisms. Stem-end rot (Diplodia natalensis or Diaporthe citri) was the second most important decay on this fruit.

OLIVES AND POMEGRANATES:

In seven cars from California in which grapes and fresh olives had been shipped together the latter fruit was severely bleached and pitted at lenticels and skin breaks. A similar condition existed on pomegranates shipped in a car with grapes. These cars had been treated with sulfur dioxide, a regular practice with grapes from California, and the olives and pomegranates, being susceptible to the gas, were injured.

ONION:

A shipment consisting of 1,000 bags of a Valencia type of onion from Argentina received in early June contained 15 percent decay consisting of bacterial soft rot (Bacillus carotovorus), and fusarium rot (Fusarium spp.).

ORANGES:

Creasing and puffing occurred in unusual quantities in shipments of Valencia oranges from Southern California during August and September. Many shipments which had been packed as first grade fruit contained 60 to 70 percent of the trouble on arrival at New York. Blue mold rot (Penicillium sp.) which is usually bad in shipments of this weak fruit was not found in larger quantities than usual.

Two shipments of Valencia oranges, among the last of the season's crop, which arrived at New York City the first week in August and which originated at Hollywood, Florida were badly affected with algal spot (Cephaleuros (virescens) mycoidea). All fruits in the shipments showed from 2 to 100 of the stellate spots.

PEACHES:

Cling peaches received in August and September were badly affected with brown rot (S. fructicola). In two cars examined 50 and 70 percent of the fruit respectively was decayed. This condition in such large quantities has not been seen on the market in late years.

Peaches from the southeastern growing section were relatively free from decay. Rhizopus rot which in past years has occasionally taken heavy toll in shipments was rarely found. Observations on the maturity of the fruit lead one to suspect that much of it lacked proper maturity at picking and was therefore less susceptible to attack by Rhizopus than fruit picked more mature.

Chafing injury appearing as indefinite light-brown unsunken patches in the skin was found in three cars from Georgia and North Carolina. Location of affected fruits in the shipping containers indicated that the chafing occurred during the packing process rather than during transit.

PINEAPPLES:

Black rot (Thielaviopsis paradoxa) continued to cause irregular losses ranging from 3 to 5 percent in pineapples from Puerto Rico. About the same percentage was found in Cuban pineapples except for arrivals during two weeks in mid-June when between 35 and 50 percent of the fruits were affected.

PLUMS:

Relatively small amounts of brown rot were found on plums from California but occasional cars contained either rhizopus rot (Rhizopus sp.) or blue mold rot (Penicillium sp.) affecting up to 3 percent of the fruit. Italian prune plums from Oregon and Idaho were generally free from decay during the early part of the season, but in cars shipped late in the season and held on the track or in cold storage there was usually 2 or 3 percent of blue mold rot. Green mold rot (Cladosporium sp. and Alternaria sp.) was more common than usual on the prune plums from these two States. This decay was scattered throughout the shipments apparently following injuries to the skin of the fruit made while it was still on the trees. Injuries presumably caused by insect feeding were common on the fruit.

TOMATO:

Seven percent of the fruits in a carlot of Tennessee tomatoes received in early July were affected with anthracnose (Colletotrichum phomoides). More instances than usual of loss from anthracnose in New York state tomatoes were brought to our attention this season.

Fifteen percent of the fruits in one part of a car of Western New York tomatoes received in early September bore occasional spots of bacterial canker (Aplanobacter michiganense) while in a single lug 50 percent were affected. The disease is seldom met with on this market.

Late blight (Phytophthora infestans) was serious in several lots of western New York tomatoes. In one shipment of 200 lugs from 75 to 100 percent of the tomatoes were affected and in one lot of 50 baskets approximately 80 percent were affected.

WINTER QUEEN WATERMELON:

Four cars of Winter Queen watermelons were received from Colorado in late September and early October. All were practically free of decay.

(Division of Fruit and Vegetable Crops and Diseases, Bureau of Plant Industry, New York City).

BRIEF NOTES ON PLANT DISEASES

"BLACK POX" FRUIT SPOT OF APPLES IN INDIANA: During August, the fruit on a number of aged Grimes trees in an orchard near Seymour, Indiana, were severely infected by Helminthosporium papulosum Berg. In two other orchards near Mitchell, Indiana, this fruit spot was observed on occasional

fruits of Grimes, Rome, and Jonathan. The causal fungus was isolated from fruits of the above varieties. Very slight infection of "black pox or target canker", which is caused by the same fungus, occurred on the tree branches in these orchards. (R. C. Baines, October 25, Purdue University Agricultural Experiment Station).

"WEAK NECK" DISEASE OF SORGHUM IN KANSAS: "Weak neck" a disease noted for the first time in sorghum last year is again in evidence at this Station. The disease attacks the peduncles, causing shriveled grain and later breaking-over of heads. The disease is most evident in certain milo hybrids and more severe in early than in late planting. The cause of the disease is not known but may be associated with alternate periods of drought and rainfall. Neither is it known of what economic importance the disease may prove to be. (A. F. Swanson, Sept. 15. Division of Cereal Crops and Diseases, Fort Hays Experiment Station, Hays, Kansas. Cereal Courier 30: 146. Sept. 25).

DUTCH ELM DISEASE FOUND IN ANOTHER NEW COUNTY IN NEW YORK: Two trees located in Ulster County, New York, are the first confirmed Graphium cases found in that county, thereby adding another county to the diseased area. They are located in Esopus Township approximately 3 miles south of the City of Kingston, and only a short distance east of Route US-9W. The nearest confirmed tree is approximately 4-1/4 miles northeast in the township of Clinton, Dutchess County. (Bureau of Entomology and Plant Quarantine, Dutch Elm Disease Eradication, report for week ending October 22).